COMMODORE 64C™

introductory guide

*A quick-start guide to loading and running software on the world's best selling personal computer.*

what you need to get started

Here's what you need to start computing
with your Commodore 64C:

- The **computer keyboard,** which
  lets you type information and send it
  to the computer
- A **television set** or a **video
  monitor,** which lets you see what the
  computer is doing

You can connect accessory equipment
(sometimes called **peripheral equipment**
or simply **peripherals**) to your 64C. For
example, with a disk drive or cassette
recorder, you can save your work. With a
printer, you can make a copy of your
work.
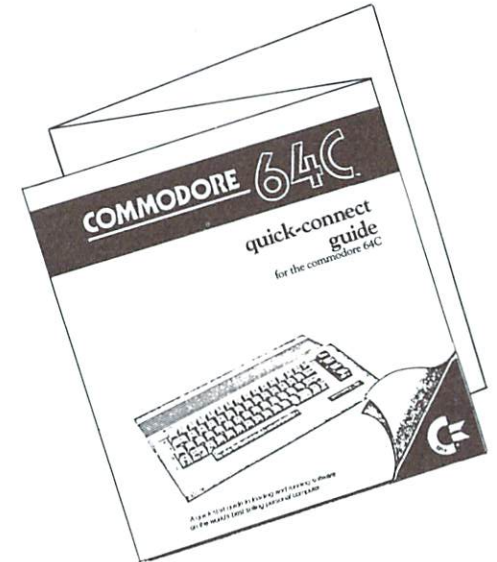
If you haven't already con-
nected your equipment,
follow the directions given
in the QUICK-CONNECT
GUIDE, which is packed in
the computer box.

turning on the computer for the first time

—if you are using a television set

1. MAKE SURE THAT YOU HAVE CONNECTED THE COMPUTER PROPERLY TO THE TELEVISION SET.

Follow the instructions in the *QUICK-CONNECT GUIDE.*
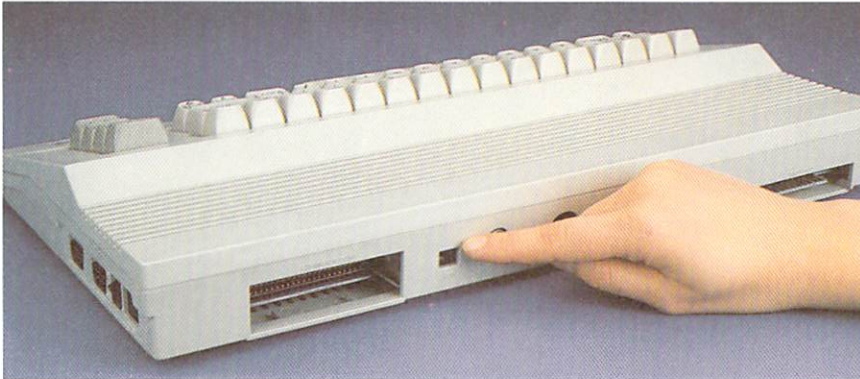
2. SET THE CHANNEL SELECTOR SWITCH ON THE BACK OF THE COMPUTER.

Set the switch (marked L-H) to either channel 3 or channel 4—whichever is not used in your area.

3. TURN ON THE TV SET.

4. TURN ON THE COMPUTER

The red POWER light on the top left side of the computer then comes on and the initial screen display appears.

—if you are using a monitor:

1. MAKE SURE THAT YOU HAVE CONNECTED THE COMPUTER PROPERLY TO THE MONITOR.

Follow the instructions in the *QUICK CONNECT GUIDE.*

2. TURN ON THE MONITOR.

3. TURN ON THE COMPUTER.

The small red POWER light on the top left side of the computer then comes on and the initial screen display appears.

initial screen display

Shortly after you turn on your computer, you should see a display like the one shown below on your television set or monitor:

—the cursor

Notice the small flashing rectangle at the upper left part of the screen, just below the word READY. This rectangle is called the **cursor.** The cursor marks your position on the screen. When you type in something or when the computer responds to something you have typed in, the cursor moves accordingly.

——the cursor——►

**** COMMODORE 64 BASIC V2 ****

64K RAM SYSTEM 38911 BASIC BYTES FREE
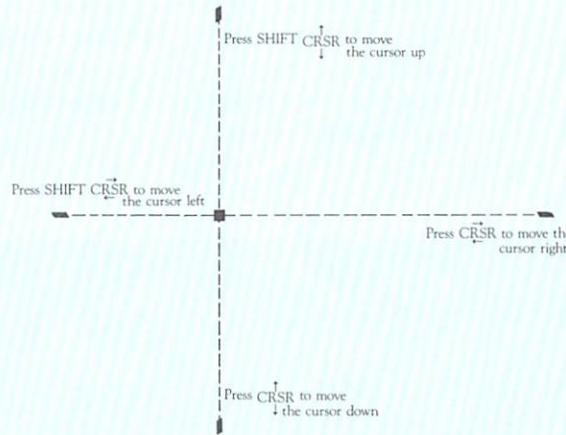
READY.
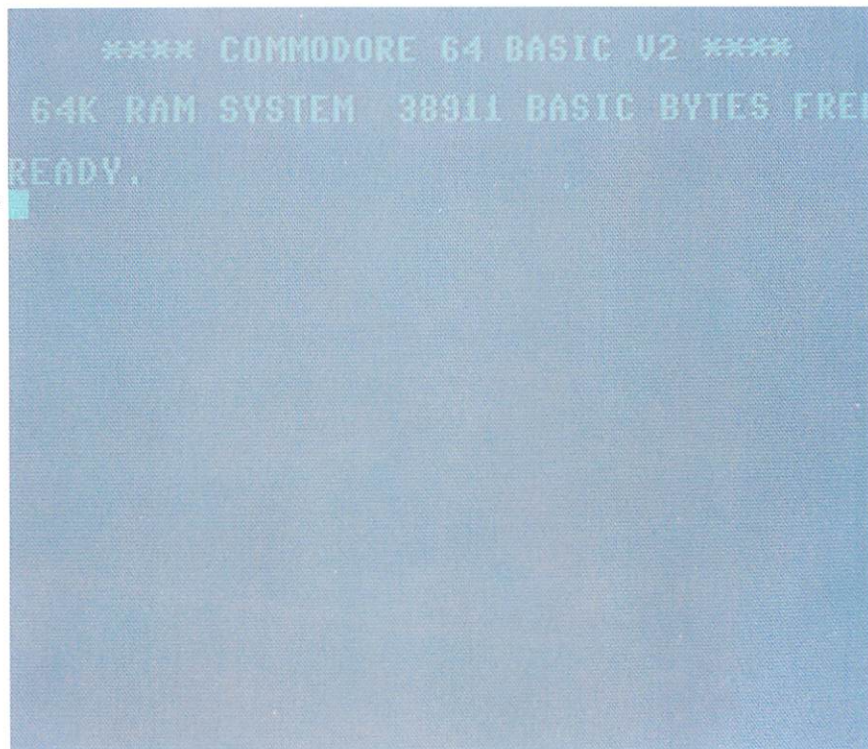
—adjusting the screen display

If the screen display is not clear, adjust the controls on your television set or monitor. If you don't get a picture at all, use the troubleshooting chart in the *QUICK-CONNECT GUIDE* to check your connections.

If you press the RETURN without having entered something that the computer can understand, you may see a message on the screen from the computer (e.g., SYNTAX ERROR). These messages are the computer's way of telling you that it can't act on the information you have entered. In some cases the messages are self-explanatory, but in some cases you may need an explanation of the message. Appendix A of the Commodore 64C System Guide lists and explains the error messages for the 64C.

moving around the screen

You can move around the screen by moving the cursor. To do this, you use the two keys marked with arrows, located at the right end of the bottom row of the main keyboard.

Press SHIFT CRSR to move
the cursor up

Press SHIFT CRSR to move
the cursor left

Press CRSR to move the
cursor right

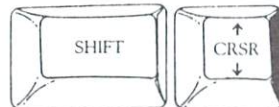Press CRSR to move
the cursor down

You don't have to keep tapping a CRSR key to get it to move more than one space. Just hold the key down and the cursor will continue to move until it reaches the position you want it to be in. Remember that you also must hold down the SHIFT key at the same time if you are moving up or to the left.
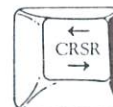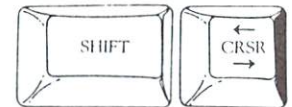
Here's how the cursor keys work:
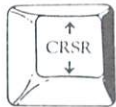
Press CRSR to move the
cursor down

Press SHIFT CRSR to move
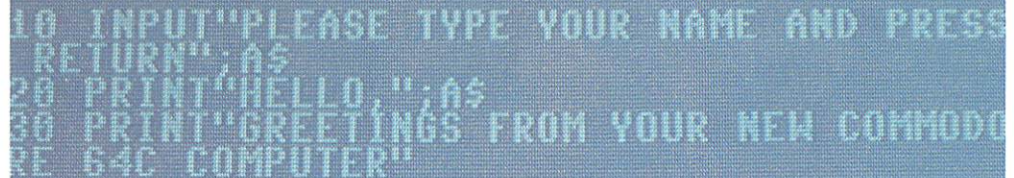the cursor up

Press CRSR to move the
cursor right

Press SHIFT CRSR to move
the cursor left

Here's a simple program to show you that you can get your 64C to do things without knowing all about programming or BASIC or machine language.

First, hold down the SHIFT key and press the CLR HOME key. This "clears" (that is, erases) the screen. Then type the following lines exactly as they appear. Press the RETURN key after each line.

```
10 INPUT"PLEASE TYPE YOUR NAME AND PRESS
 RETURN";A$
20 PRINT"HELLO,";A$
30 PRINT"GREETINGS FROM YOUR NEW COMMODO
RE 64C COMPUTER"
```

The numbers at the beginning of each line tell the computer that you are entering a program. Pressing the RETURN key after you type each line tells the computer to "save" that line (that is, to keep the line in the computer's memory).

After you have finished typing line 30 and have pressed RETURN for that line, use the SHIFT and CLR HOME keys to clear the screen again. Then type RUN and press RETURN, and follow the computer's instructions. If you get any kind of error message on the screen, you have probably made a typing mistake. Just clear the screen (use SHIFT/CLR HOME) and start again.

There are many prepackaged software programs that you can use with not much more experience than it takes to use this little sample program. Once you "load" such a program ("loading" means putting the program in the computer's memory), the program instructs or "prompts" you about what to do. The section in this booklet called **using software** tells you how to "load" and "run" prepackaged software programs.

If you are interested in learning how to create and run your own programs using the 64C and the BASIC programming language, see the COMMODORE 64C SYSTEM GUIDE—*Learning to Program in Basic 2.0*—the other book that comes packed with the 64C computer.

about ram and rom

You have probably read or heard the terms RAM (Random Access Memory) and ROM (Read Only Memory) used in connection with computers. These terms refer to the two types of memory used by a computer in processing information.

RAM is memory that you can use AND change. For example, you can use RAM to enter a program, and you can change that program while it is in RAM. The 64C can hold about 64,000 characters (bytes) of information in its RAM. This memory can be directly used by you, and it can be changed by you.

ROM is memory that can only be used by the computer itself to perform and control its internal activities. ROM cannot be changed by you, although there are methods that you an use to see what values are in ROM. Your 64C also has 20K of standard ROM (Read Only Memory).

The computer keeps track of how much RAM you have used and how much you have left. The computer also keeps track of the contents and status of ROM. So, unless you are interested in creating your own programs, you generally need not be concerned about RAM and ROM.

troubleshooting chart

Symptom	Cause	Remedy
Indicator light not 'ON'	Computer not turned ON	Make sure power switch is in ON position
	Power supply not plugged into computer	Check power socket for loose or disconnected power cable
	Power supply not plugged into external power	Check connection with wall outlet
	Bad fuse	Replace fuse
No picture (Monitor)	Monitor not connected and/or not turned on	Check monitor connections and/or ON/OFF switch
No picture (TV)	Incorrect hookup	Check computer hookup to VHF antenna terminal;
	TV not connected and/or turned on	Check TV power connection and ON/OFF switch
	Cable to TV not plugged in	Check output cable connection to TV
	Computer and/or TV set for wrong channel	Set computer to same channel as TV (3 or 4)
Random pattern on screen with cartridge in place	Cartridge not properly inserted	Turn power OFF and reinsert cartridge
Picture with poor or no color	Poorly tuned color controls	Adjust color controls on TV or monitor
Sound with excess background noise	Volume too high	Adjust volume
Picture OK, but no sound	Volume too low	Adjust volume
	Audio input of monitor audio/video cable not connected	Connect audio cable to monitor audio input
	If using external amplifier, connections or settings not correct	Connect sound jack to AUX input on amplifier and select AUX input
Sound OK, but no picture	See "No picture" listings above	See "No picture" listings above
Computer "locked" (cursor not flashing)	Computer inadvertently received instructions to disable keyboard; or the printer, cassette or disk drive is in *listening* mode	While depressing the RUN/STOP key press RESTORE key twice; or reset the peripherals by turning off and on; or turn the computer off and on
Computer displays garbled symbols on the screen	Overheating	Pull plug on power supply and allow to cool down (make sure air flow around power supply is not restricted)

NOTE: Static electricity generated by walking on rugs or carpeting can damage computer equipment. If such conditions exist, be sure to discharge the static electricity by touching a metal object **before** touching the computer or other equipment.

Also, power surges can damage computer equipment or cause data to be lost or garbled. You can avoid this by installing an inexpensive surge protection device, available at your local electronics or hardware store.
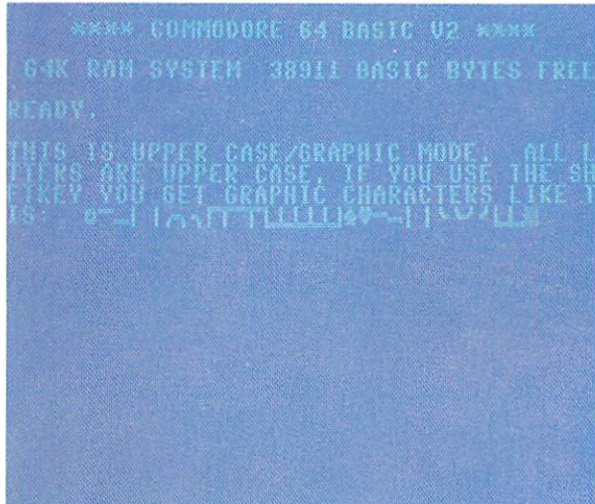
the 64C keyboard

what the keyboard is used for

The 64C keyboard is basically a standard typewriter keyboard with some extra keys. You use the keyboard to tell the computer what you want it to do. You also use the keys to reply to any messages or questions the computer displays on the screen. (These messages and questions are sometimes called "screen prompts" or simply "prompts".)

Most of the letter, number and symbol keys on the Commodore 64C's keyboard look and work like the corresponding key on a standard typewriter. In addition, many of these keys can produce special graphic symbols, which are indicated on the front of the keys. There are also a number of special keys that let the Commodore 64C computer do much more than a typewriter can do. The keyboard illustration shown locates these special keys and tells how you use them.
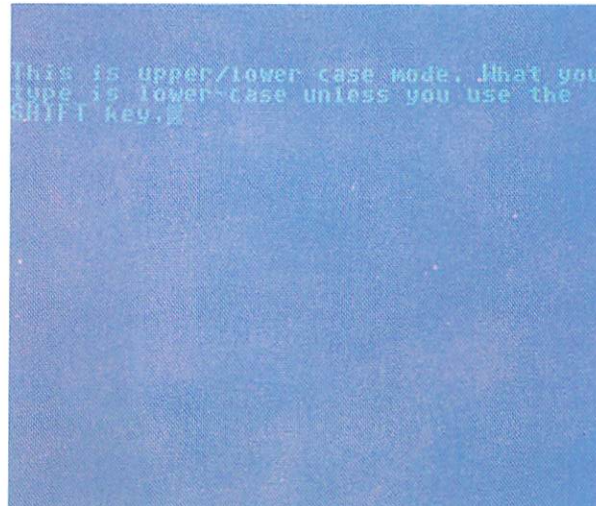
For a detailed description of key functions see the COMMODORE 64C SYSTEM GUIDE.

Feel free to experiment at the keyboard. There is little chance that anything you do at the keyboard can cause harm, and you will benefit from the "hands on" experience.

upper case/graphic mode

upper/lower case mode

The 64C keyboard has two typing modes:

—Upper case/graphic mode
—Upper/lower case mode

When you turn on the computer, the keyboard is in the upper case/graphic mode, which means that everything you type is in capital letters.

To switch back and forth between modes, you must press the SHIFT key and the **C=** key (the COMMODORE key) at the same time. If you switch to the upper/lower case mode, the keyboard works much like a standard typewriter keyboard. What you type normally appears in lower case; if you want upper case (that is, capital letters) you can hold down the SHIFT key or depress the SHIFT LOCK key.

You do not have to be an accomplished typist to use the computer effectively. You only need to know the general keyboard layout, including the location and function of the special keys, as shown on the keyboard diagram.

the commodore 64C keyboard layout

The 64C keyboard is basically a standard typewriter keyboard with some extra keys. You use the keyboard to tell the computer what you want it to do. You also use the keys to reply to any messages or questions the computer displays on the screen. (These messages and questions are sometimes called "screen prompts" or simply "prompts".)

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For a detailed description of key functions see the COMMODORE 64C System Guide.

CTRL

–Used with other keys, lets you do special tasks called control functions.

–Used with numeric keys 1 to 8, lets you select from a set of eight colors.

RUN/STOP

–Used alone to halt a program that is running.
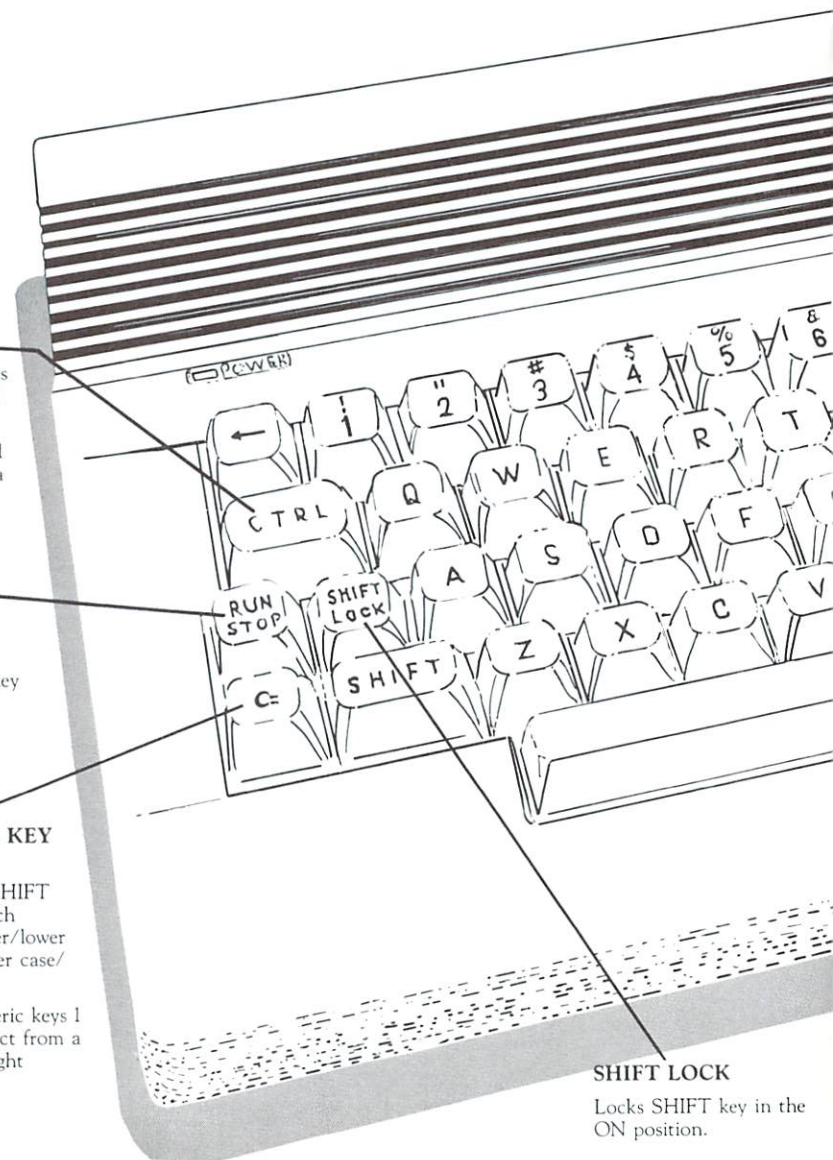
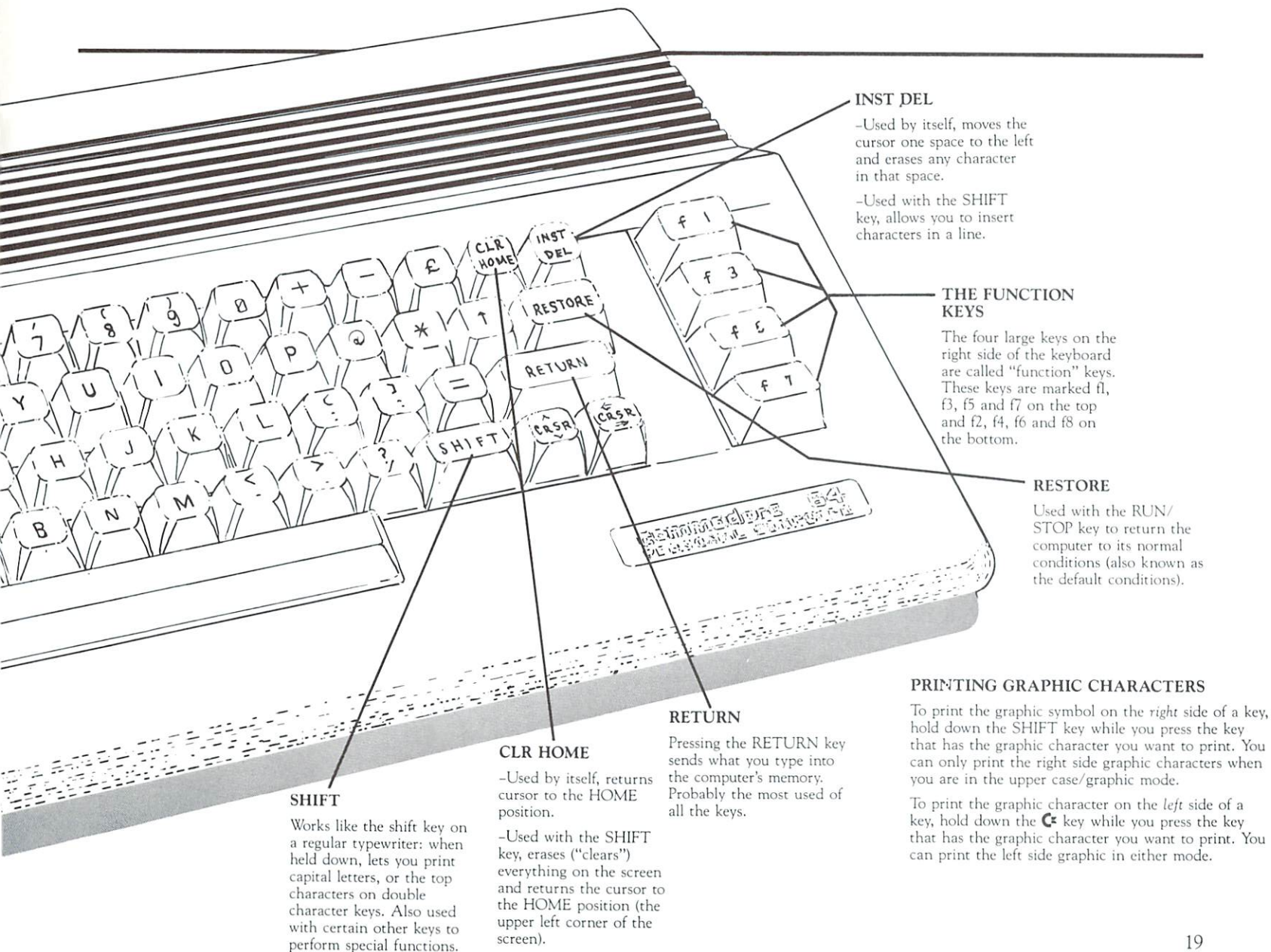–Used with the SHIFT key to start a program.

COMMODORE KEY (C=)

–Used with the SHIFT key, lets you switch between the upper/lower case and the upper case/graphic modes

–Used with numeric keys 1 to 8, lets you select from a different set of eight colors.

SHIFT LOCK

Locks SHIFT key in the ON position.

18

INST DEL

–Used by itself, moves the cursor one space to the left and erases any character in that space.

–Used with the SHIFT key, allows you to insert characters in a line.

THE FUNCTION KEYS

The four large keys on the right side of the keyboard are called "function" keys. These keys are marked f1, f3, f5 and f7 on the top and f2, f4, f6 and f8 on the bottom.

RESTORE

Used with the RUN/STOP key to return the computer to its normal conditions (also known as the default conditions).

PRINTING GRAPHIC CHARACTERS

To print the graphic symbol on the *right* side of a key, hold down the SHIFT key while you press the key that has the graphic character you want to print. You can only print the right side graphic characters when you are in the upper case/graphic mode.

To print the graphic character on the *left* side of a key, hold down the C= key while you press the key that has the graphic character you want to print. You can print the left side graphic in either mode.

RETURN

Pressing the RETURN key sends what you type into the computer's memory. Probably the most used of all the keys.

CLR HOME

–Used by itself, returns cursor to the HOME position.

–Used with the SHIFT key, erases ("clears") everything on the screen and returns the cursor to the HOME position (the upper left corner of the screen).

SHIFT

Works like the shift key on a regular typewriter: when held down, lets you print capital letters, or the top characters on double character keys. Also used with certain other keys to perform special functions.

using software

what software is

Software is a set of instructions (also called a **program**) that tells your computer just what you want it to do. In other words, software is what lets you do things with your computer.

There are two kinds of software:

1. **Prepackaged Software—**

This is software that is ready for you to use. Prepackaged software is sometimes called "canned" software. You don't need to know all about "computing" or "programming" to use prepackaged software programs.

There are many thousands of prepackaged or "canned" software programs available to you. Much of this software comes from commercial software companies, but there are also many ready-to-use software programs available in computer magazines or from computer user groups.

2. **User-Created Software—**

This is software that you yourself make up. To do this you must use a special language, known as a programming language. The Commodore 64C comes with a built-in programming language known as BASIC 2.0; see the *SYSTEM GUIDE* for instructions on programming in BASIC 2.0. There are also many other programming languages available for the Commodore 64C, including LOGO, PILOT, LISP, PASCAL, etc.

Software comes in three kinds of packages or formats:

disk—

Depending on the type of disk drive you are using, these can be either 5¼″ or 3½″ disks enclosed in a protective envelope.

cartridge—

Software cartridges, about the size of a deck of cards, are used for many business and educational programs, as well as for games.

cassette tape—

Software on tape uses a normal-sized audio tape cassette that contains either standard audio tape or computer digital tape. The cassette is used with a special Commodore tape recorder called a Datassette.

In addition to using prepackaged software programs on disks, cartridges or tapes, you can make you own programs and put them on disks or tapes. You usually cannot put your own programs on a cartridge.

what's in a software package

The main part of a software package consists of the computer program, which is contained on a disk, cartridge or tape. The package usually also includes printed instructions that tell you such things as what the program does, how to load and run it, how to enter information, and what the program output looks like.

The amount of instructions supplied with the software package usually depends on how many things the program can do, and the kind of things it can do. These instructions can be less than a page long, or they can take up a complete manual.

To use a software package, you must do two things:

—FIRST, **you must place the software program in your Commodore 64C's memory.** This is called **loading** the program. In some cases, you **load** the program by using the LOAD command, as explained on pages 26, 27, and 28. In other cases, the program is loaded automatically.

—SECOND, **you must tell the computer to carry out the program's instructions.** This is called **running** the program. In some cases, you **run** the program by using the RUN command. In other cases, the program not only **loads but also runs** automatically.

The following pages tell you how to LOAD and RUN disk, cartridge and tape software.

loading and running disk software

Here is the procedure you follow to load prepackaged disk softwares or disk software that you have programmed yourself:

1. INSERT THE DISK INTO THE DISK DRIVE.

Make sure the disk is all the way in, but don't force it.

2. PULL DOWN THE LEVER ON THE FRONT OF THE DISK DRIVE.

(Some drives may have a small door or shutter instead of a lever).

3. TYPE:

LOAD "PROGRAM NAME", 8

Here, the words PROGRAM NAME stand for the name of the prepackaged software program that you're using. Note that you must enclose the program name in quotation marks. The number 8 tells the computer that you're loading a disk program.

4. PRESS THE RETURN KEY.

The activity light on the disk drive will go on, and this message will appear on the screen:

SEARCHING FOR PROGRAM NAME
LOADING

After a short time the screen will display this message:

READY.
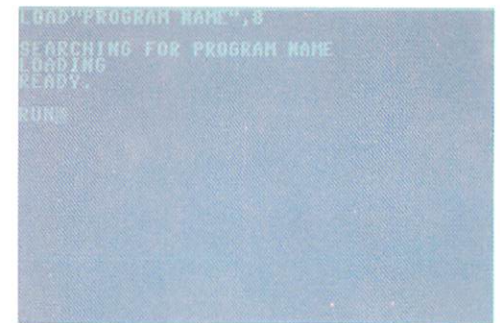
5. TYPE:

RUN

6. PRESS THE RETURN KEY.

In some cases, prepackaged disk software may have its own special way to enter the LOAD command. Also, some commercial software may have an automatic RUN command built into the program. Check the software instructions carefully, especially if you have any problems.

Follow these steps to load cartridge software:

1. TURN OFF THE COMPUTER.

Press the ON/OFF switch on the right side of the computer. The screen display on your monitor or television set should go dark.

2. INSERT THE CARTRIDGE IN THE CARTRIDGE PORT.

The cartridge port is the first port on the right side of the back of the Commodore 64C. This port accepts a cartridge only one way—with the title up. Insert the cartridge firmly but do not force it.

3. TURN ON YOUR COMMODORE 64C.

That's all there is to it. Your cartridge will load automatically at this point. You do not have to use a LOAD command, and usually you do not need to use a RUN command. To use the program, just follow the directions given on the screen, or in any printed instructions that come with the cartridge.

CAUTION—YOU **MUST** TURN OFF YOUR COMMODORE 64C COMPUTER BEFORE YOU INSERT OR REMOVE CARTRIDGES. IF YOU DON'T, YOU MAY DAMAGE THE CARTRIDGE AND THE COMPUTER.

loading cassette tape software

Follow these steps to load prepackaged cassette tapes:

1. PLUG THE DATASSETTE INTO THE CASSETTE PORT.

2. INSERT THE TAPE CASSETTE.

Rewind the tape if necessary.
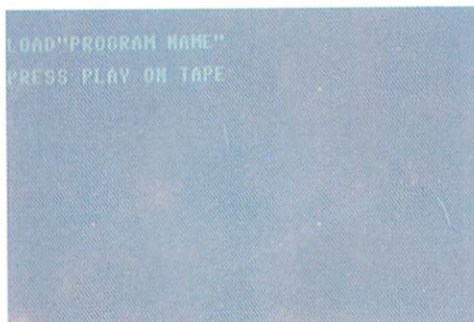
3. TYPE:

LOAD "PROGRAM NAME" [RETURN]

The screen then displays this message:

PRESS PLAY ON TAPE

The computer searches for the program.
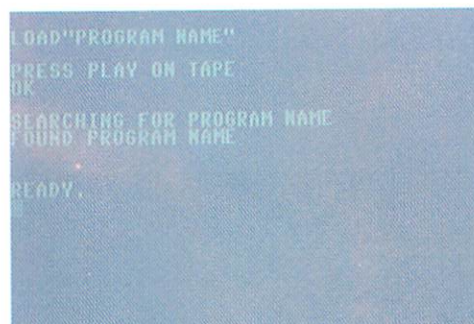
4. WAIT FOR THIS MESSAGE:

FOUND PROGRAM NAME

Here, PROGRAM NAME stands for the name of the software package you are using.

5. PRESS THE ⌯ KEY.

The program is LOADED into the computer. (If for some reason you decide at this point that you want to stop the program from LOADing, just press the RUN/STOP key.)

The program will then either start to run by itself, or there will be instructions on the screen telling you what to do. For instance, some programs will tell you to type RUN and press RETURN to start program operation.

NOTE:

Many prepackaged cassette programs may take several minutes to load. You will know that loading is complete when you see the cursor start to blink again, or when instructions telling you how to use the program appear on the screen.

For more information on using your 64C computer, see the following books:

- *COMMODORE 64C SYSTEM GUIDE*
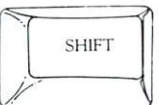- *COMMODORE 64 PROGRAMMER'S REFERENCE GUIDE*
- *INTRODUCTION TO BASIC—PARTS, I, II, AND III*
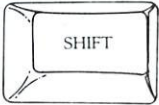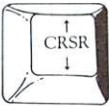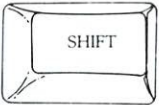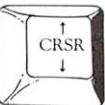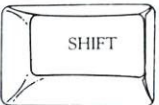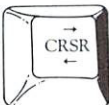
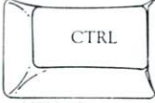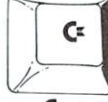## if you have a question...
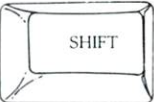
The Commodore Customer Support group is available to help if you have a question or problem. If you can't find the answer to your question in the Commodore documentation, you can call Customer Support at the following number:

(215) 436-4200

If you have what you think is a hardware problem, be sure to call Customer Support. There often is a simple answer to such problems. By calling Customer Support you may be able to avoid taking your equipment in for service.

summary of 64C keyboard functions

key(s)	function
RETURN	Place information (e.g., a program line) in the computer's memory
SHIFT · CLR HOME	Clear screen
CRSR ↑↓	Move cursor down
SHIFT · CRSR ↑↓	Move cursor up
CRSR ←→	Move cursor right
SHIFT · CRSR →←	Move cursor left
INST DEL	Delete character(s)
SHIFT · DEL INST	Insert character(s)

function	key(s)
Stop a program	RUN STOP
Stop a printout	RUN STOP
Switch screen mode	C= SHIFT
Lock SHIFT key	SHIFT LOCK
Load and run a program from tape	SHIFT RUN STOP
Change character color	CTRL 1 to 8 CTRL plus a numeric key from 1 to 8
Change character color	C= 1 to 8 C= plus a numeric key from 1 to 8

summary of most-used 64C commands

Function	Command Format
Loading a program from disk	LOAD "PROGRAM NAME", 8
Loading a program from tape	LOAD "PROGRAM NAME"
Saving a program to a disk	SAVE "PROGRAM NAME", 8
Saving a program to tape	SAVE "PROGRAM NAME"
Running a program	RUN
Formatting a disk	OPEN 15,8,15:PRINT#15,"N:DISKNAME,ID":CLOSE15
Displaying the lines of a program	LIST
Loading a directory of files on a disk into the computer's memory	LOAD"$",8
Displaying a disk directory that has been loaded into the computer's memory	LIST
Clearing the computer's memory	NEW

NOTE: For details on any of these commands, see the BASIC 2.0 ENCYCLOPEDIA in Chapter 6 of the Commodore 64C System Guide.

COMMODORE

RETROTECNIA

ENCICLOPEDIA DE
REFERENCIA | EDUCATIVA

PARA ENTENDER LA EVOLUCION DE LOS ORDENADORES A TRAVES DEL TIEMPO